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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/728,120	12/04/2003	Jitendra Mohan	P05746 (NAT115-05746)	7655
23990	7590	03/13/2007	EXAMINER	
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DALLAS, TX 75380			PAPER NUMBER	
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SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		03/13/2007	PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/728,120

Applicant(s)

MOHAN, JITENDRA

Examiner

Phillip Nguyen

Art Unit

2828

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 22 January 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments with respect to claims 1-20 have been considered but are moot in view of the new ground(s) of rejection.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1, 9, and 15 recite "a factor specific to mounting of the light source" which is not clear what applicant intends to claim.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 2828

3. Claims 1-4, 6-7, 9-12, 14-15, 17-18, are rejected under 35 U.S.C. 103(a) as being unpatentable over Althaus et al. (US 6853657).

With respect to claims 1-3, 6, 9-11, 14-15, and 20, Althaus discloses the claimed invention, especially shown in Fig. 5A and 5B, a system comprising: a controller 2 that, when operably coupled to a light source HLD emitting light at a selectively variable output power, measures the forward voltage 1 across the light source and determines an output power for emitted light based upon measurements of one or more of: the forward voltage across the light source, and the forward current across the light source, ambient temperature around the light source, and a factor specific to mounting of the light source (col. 4, lines 22-30). However, Althaus does not explicitly teach determining a forward current through the light source based on the measured forward voltage. It is noted that the claim does not recite the light source as a laser diode. Light bulb, lamp, or LED could also be considered as a light source. The Ohm's Law is appropriated to apply to this situation to determine the forward current. It's further noted that even if a laser diode, especially VCSEL as shown in the specification, is used as light source, the Ohm's Law is still appropriated to determine the forward current based on the measured forward voltage at a certain value of the forward voltage. In other words, the relationship between current and voltage of the laser diode is not totally nonlinear at all range of forward voltage or all range of forward current. Therefore it would have been obvious to the one having ordinary skill in the art at the time the invention was made to use the measured forward voltage to determine the forward current based on Ohm's Law for at least a certain forward voltage range or from a look-up table (col. 3, lines 10-19).

Art Unit: 2828

With respect to claims 4, 12, and 18, Althaus discloses the forward voltage being employed to determine a die temperature for the light source, and wherein the output power is determined based further upon the die temperature which is determined from the look-up table (col. 3, lines 10-19).

With respect to claim 7, see col. 1, lines 21-28.

With respect to claim 17, Althaus discloses a voltage detector 1 providing measurements of the forward voltage to the controller 2.

With respect to claim 19, memory 5 is coupled to the controller 2 containing a look-up table for the die temperature.

4. Claims 1, 5-6, 7-11, and 13-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bernstein et al. (US 6356774).

With respect to claims 1, 9-11, and 14-15, Bernstein discloses the claimed invention, especially shown in Fig. 3, a system comprising: a controller 64 that, when operably coupled to a light source 52 emitting light at a selectively variable output power, measures the forward voltage 68 across the light source and determines an output power for emitted light based upon measurements of one or more of: the forward voltage across the light source, and the forward current across the light source, ambient temperature around the light source (col. 4, lines 22-30). However, Bernstein does not explicitly teach determining a forward current through the light source based on the measured forward voltage. As discussed above, it would have been obvious to the one having ordinary skill in the art at the time the invention was made to use the measured

Art Unit: 2828

forward voltage to determine the forward current based on Ohm's Law for at least a certain forward voltage range or from a look-up table.

With respect to claims 5-6, and 13-14, Bernstein discloses the die temperature is calculated or determined from a lookup table 62 without measurement of emitted light (col. 11, lines 27-34).

With respect to claims 7-8, Bernstein discloses the claimed invention except for explicitly teaching the light source that is adapted for transmission data over an optical transmission medium and a processor coupled to the controller and network connection through the optical assembly to the medium. It would have been obvious to the one having ordinary skill in the art at the time the invention was made to provide a processor and a network connection through the optical subassembly to the optical transmission medium transmit light and control the light source.

With respect to claim 16, Bernstein discloses in Fig. 3 a temperature sensor 58 and further in Fig. 12 a temperature sensor 1205 proximate to the light source 1203. The sensor 58 coupled to the read circuit 60 and then coupled to lookup table 62 wherein the lookup table 62 is coupled to controller 64. Therefore it is believed that the sensor 58 is coupled to the controller 64 for providing the ambient temperature to the controller.

With respect to claim 17, the forward voltage circuit 68 must include a voltage detector.

With respect to claim 18, since the forward current can be determined from using measured voltage, the output power could be calculated by multiplying voltage with current. Therefore it would have been obvious to the one having ordinary skill in the art at the time the invention was made to determined the output power from the forward current.

Art Unit: 2828

With respect to claims 19-20, Bernstein discloses a memory 62 which is a lookup table and coupled to the controller 64 containing a lookup table for the die temperature as discussed in the rejection of claim 16 with temperature sensor 1205.

***Communication Information***

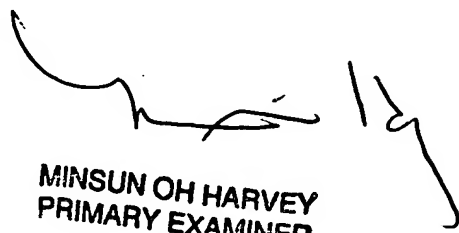
5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phillip Nguyen whose telephone number is 571-272-1947. The examiner can normally be reached on 9:00 AM - 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, MINSUN HARVEY, can be reached on 571-272-1835. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Phillip Nguyen/

AU 2828

  
MINSUN OH HARVEY  
PRIMARY EXAMINER